

The Ohanet Development - Algeria

July 2000

Summary

- BHP Petroleum has negotiated a Risk Service Contract (RSC) with the Algerian national oil company, SONATRACH, for the development of four gas condensate reservoirs in the Ohanet region of Algeria. The RSC was signed by SONATRACH, BHP and its joint venture partners in Algiers in July 2000.
- The Ohanet development represents a large, relatively stable earnings and cash flow generator within the BHP portfolio. In a Petroleum portfolio management context it provides an important balance to other projects, providing downside protection to low oil price environments.
- BHP and its Joint Venture (JV) partners will invest around US\$1030 million in developing the reservoirs. In return, the JV will, subject to achieving sufficient levels of production, be entitled to recover their investment - together with an agreed fixed profit consideration - over a target eight year period from the start of production.
- The partners' monetary entitlement will be translated at prevailing market prices into volumes of condensate, butane and propane. They have no entitlement to the sales gas, which will be used by SONATRACH to meet its existing commitments. An extension of up to four years is available if low oil prices or other events prevent full payout within the eight year period.
- The fields are estimated to contain total proven and probable reserves exceeding 3.4 trillion cubic feet of pipeline quality gas, 107 million barrels of condensate and 116 million barrels of LPG. The BHP entitlement will be dependent on future oil prices and is expected to be in the range of 55–75 million barrels of oil equivalent (grossed for Algerian tax - taxes due on the production are paid by SONATRACH on behalf of its foreign partners).
- The RSC commits BHP and its JV partners to establish commercial production of 710 million standard cubic feet per day (mmscf/d) wet gas. First production is planned for October 2003 with a peak liquids production rate of 58,000 barrels per day. BHP's revenue is taken from its share of the condensate and LPG produced.
- The project's return on investment, under base case pricing assumptions, exceeds BHP minimum hurdle rates for capital commitment, and exceeds the cost of capital at oil prices as low as US\$14 per barrel.
- The initial development comprises all of the major fluid handling and processing systems, together with the field infrastructure and wells necessary to meet initial plateau production and to accommodate subsequent export gas compression.
- Participants in the venture are BHP Petroleum (International Exploration) Pty. Ltd. (60%), the Japan Ohanet Oil & Gas Co., Ltd. (30%) (being a consortium of the Japanese National Oil Corporation 50%, the ITOCHU Oil Exploration Co., Ltd. 35% and the Teikoku Oil Co., Ltd. 15%) and Petrofac Resources (Ohanet) LLC (10%). The development and operations will be conducted by a joint management organisation comprising SONATRACH and BHP Petroleum.

Strategic context

Ohanet represents a major advance in establishing a core business for BHP in Algeria through hydrocarbon exploration and development activities. Its capture is consistent with BHP Petroleum's strategy of accessing large discovered but undeveloped resources, and complements the global niche areas of deepwater exploration and gas commercialisation.

The Ohanet development augments the planned development of BHP's interest in the ROD Integrated Development in Blocks 401a/402a, [80,000 bopd gross at peak] the exploration acreage within the Boukhechba permit and a separate initiative to pursue the potential application of the company's compact LNG (cLNG) technology within Algeria's extensive gas liquefaction facilities at Arzew, on the north coast of the country (see map on page 4).

The project also provides an important balance to other projects in the BHP Petroleum portfolio, offering a large, relatively stable earnings and cash flow generator which is well protected against any downside arising from a low oil price environment.

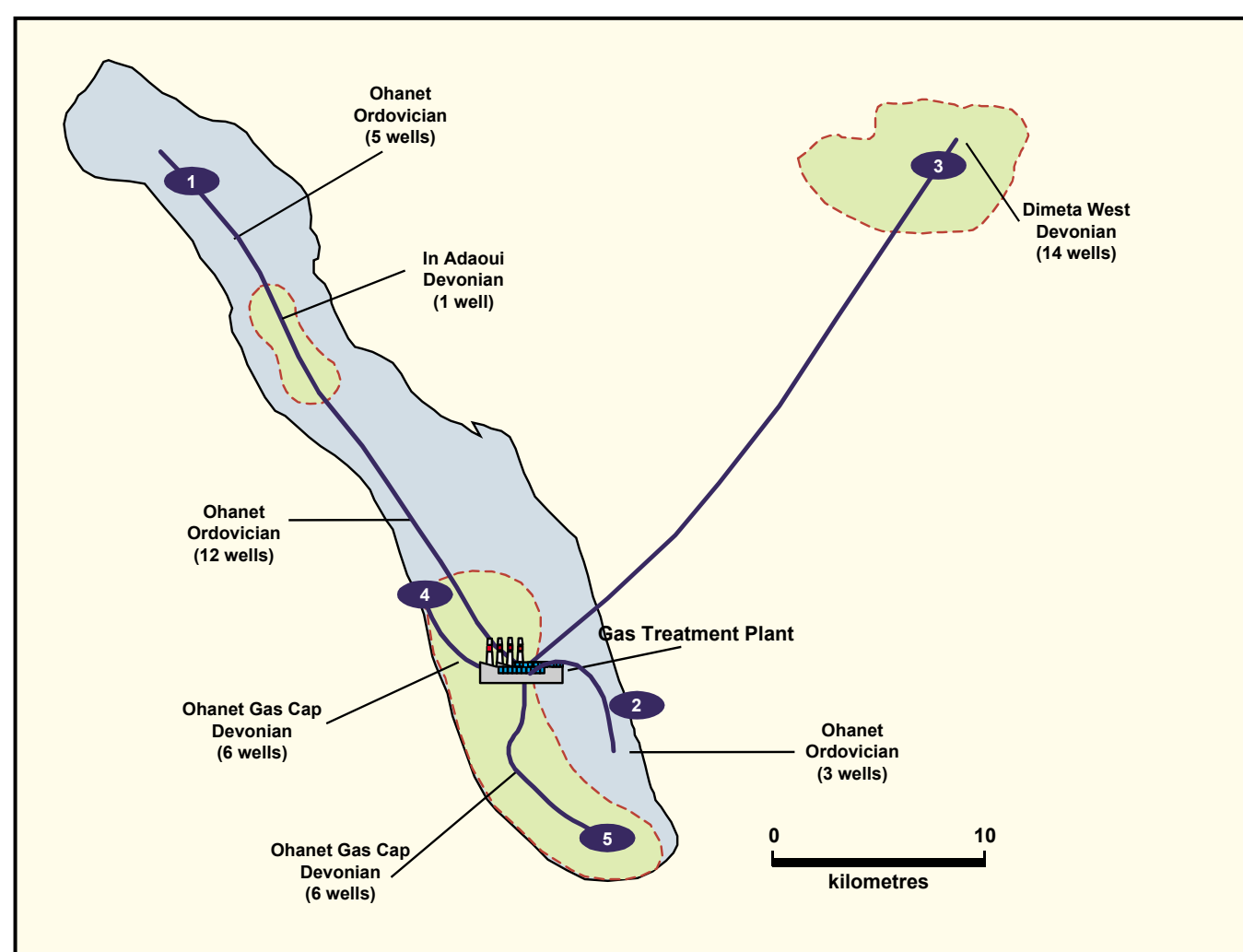
Algeria has the potential to be a significant and material earnings base for BHP Petroleum.

The Ohanet Fields

Ohanet is located in the Illizi province of Algeria, approximately 1,300km south east of Algiers and 100km west of the country's border with Libya.

Within the project area are four separate hydrocarbon reservoirs, originally discovered in the late 1950s and early 1960s. Since then, they have been appraised and delineated by more than 65 wells. Three of the reservoirs are Devonian, lying at depths of between 7500 and 8880 feet. The fourth is Ordovician at approximately 9020 feet.

Ohanet will be the seventh wet gas field development in the area south east of the Hassi R'Mel complex in Algeria. Existing developments have established service and equipment infrastructure and developed an in-country expertise in this form of development within Algeria.



The Ohanet Development

Background

In 1997, SONATRACH invited foreign companies to bid to undertake the capital investment necessary to develop the four gas condensate reservoirs comprising the Ohanet Development.

BHP Petroleum lodged an expression of interest in May 1997 for participation in the project and submitted a joint final bid in association with the Japanese company, ITOCHU Oil Exploration Co., Ltd., in August 1998. Shortly afterwards, negotiations commenced on the terms of a Risk Service Contract.

The American company, Petrofac Resources International Ltd., was invited by BHP and ITOCHU to take an interest in the joint venture. BHP Petroleum's equity interest is currently 60%; a 30% interest is held by the Japan Ohanet Oil & Gas Co., Ltd. (a consortium of the Japanese National Oil Corporation 50%, the ITOCHU Oil Exploration Co., Ltd. 35% and the Teikoku Oil Co., Ltd. 15%); Petrofac Resources (Ohanet) LLC holds 10%.

During the course of negotiations, BHP and its JV partners carried out a comprehensive evaluation of the reservoir geology and field deliverability. Available well log and core data was used to construct geological descriptions of the four reservoirs. Detailed petrophysical analyses of 18 wells was also conducted and all available seismic data was interpreted, prior to undertaking comprehensive reservoir modelling.

BHP and its JV partners signed the Risk Service Contract with SONATRACH in July 2000. The RSC is now in the process of gazettal (formal approval) by the Algerian Government.

Development Plan

First production from the Ohanet Development is expected just over three years from the date of gazettal of the RSC. At plateau rate, production is expected to be around 30,400 barrels per day (bpd) of condensate, 27,700 bpd of LPG and 655 million standard cubic feet per day (mmscf/d) of sales gas.

Under the terms of the RSC, BHP Petroleum and its JV partners have no entitlement to the pipeline sales gas or the associated revenue. Their entitlement is limited to a share of the condensate and LPG produced. Gas will be utilised by SONATRACH to meet its long term Mediterranean pipeline gas and LNG sales.

The capital cost of the Ohanet Development will be around US\$1030 million gross, BHP share US\$618 million and annual operating costs are expected to be in the order of US\$36 million gross.

The project offers the following features:

- low technical risk, and the utilisation of proven technologies
- development of a discovered resource, thereby eliminating exploration risk
- no incurred exploration or appraisal costs
- a financing arrangement including both equity and non recourse debt (circa US\$100 million)
- the achievement of a stable rate of return on capital employed exceeding BHP's hurdle rates at BHP's longer term oil pricing assumptions
- project risk mitigation in the event of future low oil prices
- surface development costs fixed via an engineer/procure/construct (EPC) contract

The Risk Service Contract

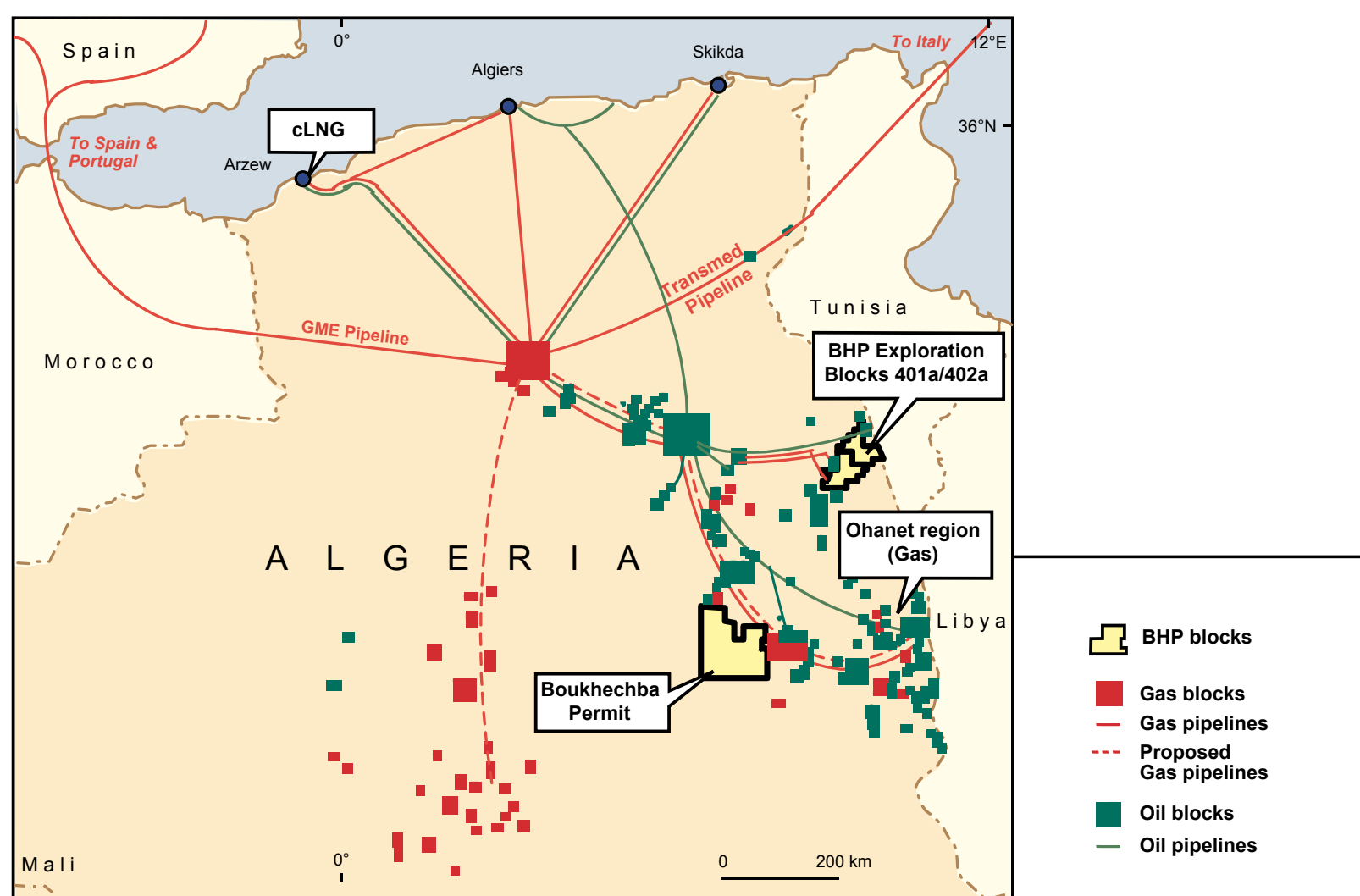
As part of its risk management strategy, BHP proposed that the Ohanet development be executed under a Risk Service Contract (RSC), instead of a more conventional Production Sharing Contract (PSC).

The adoption of a RSC provides an important balance to other projects in the BHP Petroleum portfolio, offering a large, relatively stable earnings and cash flow generator which is well protected against any downside arising from a low oil price environment. This was considered an appropriate portfolio management measure, given the level of BHP's overall investment in Algeria, through this project, the ROD Integrated Development (which will be executed under a PSC) and future potential activity arising from the company's exploration programme.

The RSC commits BHP and its Joint Venture (JV) partners to establish commercial production of 710 mmscf/d wet gas. In return, the JV will, subject to achieving sufficient production, be entitled to recover their investment - together with an agreed profit consideration - phased over a target eight year period from the start of production. An extension of up to four years is available if low oil prices or other events prevent full payout within the eight year period.

Under the terms of the RSC, the entitlements of the JV partners are stated wholly in monetary terms, rather than a mix of monetary and volumetric terms (as would be the case under a PSC). This monetary entitlement is translated at prevailing market prices into volumes of condensate, propane and butane which are then lifted from export ports on the Algerian coast.

When the RSC term expires, all rights and interests in the project revert to SONATRACH.



BHP's current opportunities in Algeria

Facilities

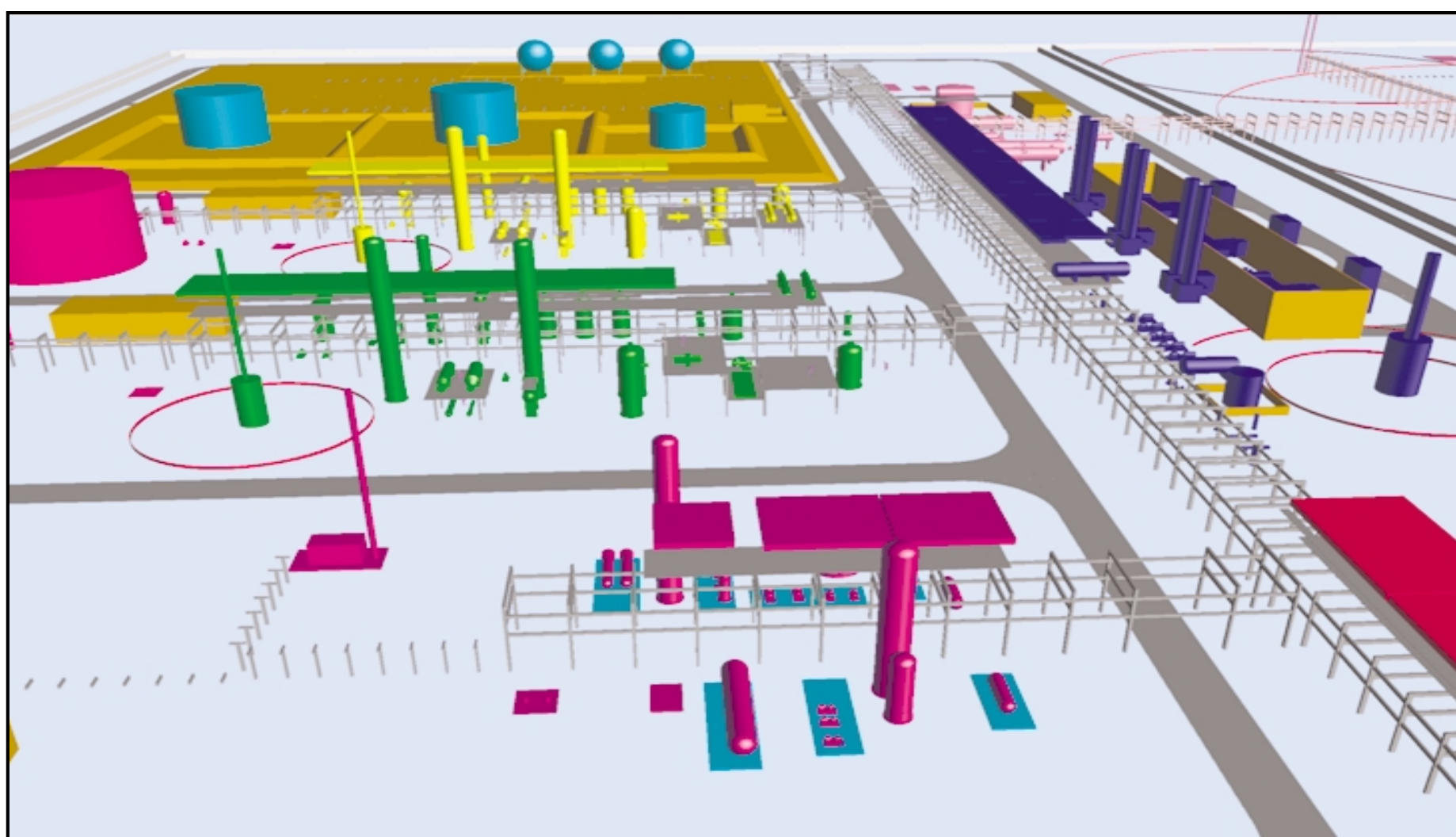
The development comprises all the major fluid handling and processing systems, together with the field infrastructure and wells necessary to meet and maintain plateau production.

The design of the facilities incorporates conventional technology throughout, the main features being:

- a gathering system of branch flow-lines and collection headers totalling 132km of pipelines;
- inlet facilities comprising liquid knock-out, inlet gas compression and CO₂ removal;
- a two train gas treatment facility, capable of processing 710 mmscf/d wet gas (20 million m³/d);
- gas turbine driven export compressors to export the dry gas into SONATRACH's pipeline system;
- three short export pipelines which tie the facilities to the existing SONATRACH pipeline network. These comprise a 17.5km 28" gas line, a 17.5km 10" LPG line and a 1.2 km 8" condensate line;
- power import facilities together with a standby generator for electrical power;
- condensate and LPG storage facilities; and
- a permanent camp for 150 people, together with workshops and warehousing to support field operations and maintenance.

The drilling programme is expected to require a total of 30 new vertical and horizontal wells, together with the re-completion of 17 existing wells.

The facilities design, procurement and construction programme has been contracted to a joint venture of ABB Lummus Global B.V. and Petrofac International Ltd. on a lump sum, turnkey basis, which will be responsible for providing the necessary staff and experience. BHP Petroleum will manage the facilities work and all reservoir engineering and drilling/re-completion operations.



Impression of the facilities

Operatorship

SONATRACH, BHP and other JV partners will form a Management Committee to plan and direct the execution of petroleum operations.

Development and operations will be conducted on behalf of the Management Committee by a joint organisation formed by SONATRACH and BHP. This type of arrangement, common in Algeria, allows the foreign partners and SONATRACH combine their extensive operational and technical knowledge of the hydrocarbon sector and, more specifically, of gas condensate field development.

BHP will work closely with SONATRACH to establish an effective and efficient joint operating organisation. The majority of the field staff will be Algerian nationals. SONATRACH and BHP will jointly staff the technical and managerial positions.

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